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(hereinafter, abbreviated as AFM) to illuminate laser light to a sample from a tip of the optical fiber probe simultaneous with AFM operation to detect a surface shape and measure a sample optical characteristic (Japanese Patent Laid-open No. 174542/1995). Fig. 16 is a structural view showing a conventional optical fiber probe. This optical fiber probe uses an optical fiber 501 covered at a periphery by a metal film coating 502. A probe needle portion 503 is sharpened and has an aperture 504 at a tip of the probe needle portion 503.--

Please replace the paragraph beginning at page 2, line 21, with the following rewritten paragraph:

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~~Although~~ Although the SNOM probe shown in Fig. 17 is easy to mass-produce by a silicon process, foreign matter including dust in air readily intrudes into a recess in a tip portion. Accordingly, there has been a problem that near-field light illuminated from the microscopic aperture is not stabilized in intensity. Further, where the tip in position is formed at a tip of the cantilever, a spot of incident light is off the cantilever during introduction of light into the microscopic aperture. When detecting an optical signal from a sample by the microscopic aperture, optical signals at other than the tip end are detected. Consequently, there has been a problem

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that the optical image of SNOM is worsened in optical-image S/N ration. Further, because the tip is formed using mold formed of anisotropic etching of silicon, the tip at an end angle is fixed as 70 degrees. Accordingly, there has been a problem that the near-field light illuminated from the microscopic aperture cannot be increased in intensity. Further, the lever 506 and the tip 505 are structured of a material small in reflectivity relative to a wavelength of incident light or the light detected by the microscopic aperture. In the NOM probe shown in Fig. 17, because the structural material of them is in an optical path, the intensity of incident light or detection light attenuates due to reflection upon the structural material. There has been a problem that the near-field light illuminated from the microscopic aperture 508 and the light detected by the microscopic aperture 508 are decreased in intensity.

Please replace the paragraph beginning at ~~page 28~~, line 20, with the following rewritten paragraph:

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It is understood that the content stated in Embodiment 4 and Embodiment 5 not only facilitates the use of a focus lens with a great NA without using an optical lever method where the near-field optical probe 1000 has a detecting function for lever deflection and vibration amplitude but also